



GREINER
SCIENTIFIC
CORPORATION

22 NORTH MOORE ST., NEW YORK, N.Y. 10013 • TWX 212 571-1766 • WOrth 6-4700

Two Great NEW Instruments *by* MANOSTAT

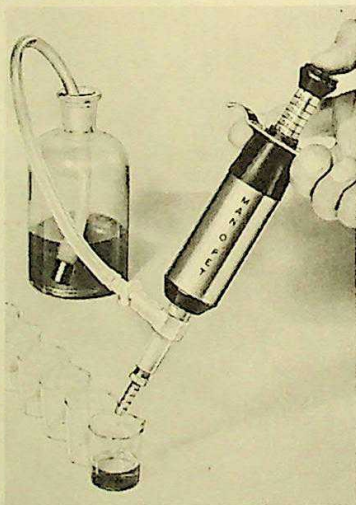
Labitem's®

VOLUME 14 • NO. 1

march 1965

MAN-O-PET

Dispense Liquids Accurately, Automatically
Every Time

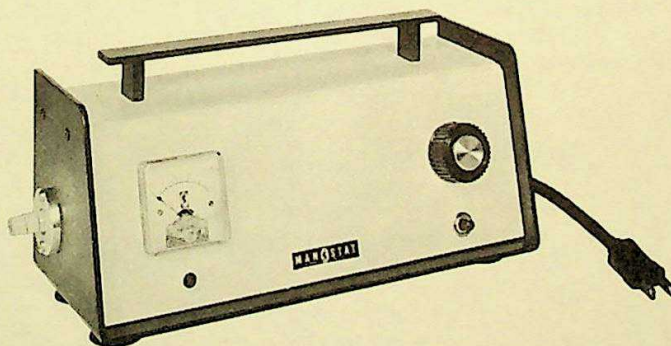


End the drudgery of repeated resettings and remeasuring. The Man-O-Pet, once set, dispenses any volume from 2 cc to 30cc within $\pm 1\%$ time after time after time. Ideal in all fields where a preset volume has to be dispensed repeatedly. Lightweight, autoclavable, easily cleaned, chemically inert; can be operated with one hand. Teflon coated stainless steel barrel eliminates sticking or freezing. Micrometer type volume selector. *No syringe or pipette needed.*

71-646-01 Man-O-pet Automatic Pipettor, complete with tubing, check valve and sinker each **27.95**

MINISTALTIC PUMP

Delivers drops to 1800cc per minute, uniform
flow, one-knob control of corrosive liquids



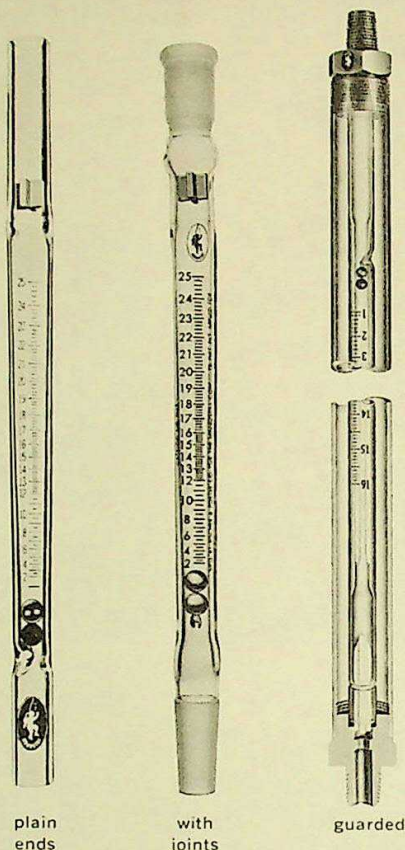
Designed for continuous pumping, this sturdy, accurate little workhorse has been tested for over 10,000 continuous hours of operation. No moving parts are exposed—liquids come in contact only with chemically inert polyethylene. A simple knob controls flow rates from a few drops to 1800 cc per minute, indicated on dial type electrical meter. Self-priming operation; compact, handsome all-metal two-tone cabinet.

72-894-21 Ministaltic Pump, 10" long by 4¼" deep by 4" high, operates on 115 volt, 50-60 cycles. each **79.00**

For complete details, write for bulletins.

PREDICTABILITY FLOWMETERS

Plain Ends with Joints or with Guards



Complete predictability for *all* fluids—available with complete protection for the flowmeters themselves. These precise Predictability Flowmeters and special rugged Guards have been developed by Manostat Corporation to meet rigorous requirements of research and industrial laboratories . . . at very low cost.

Truly versatile instruments, enabling you to calculate the calibration curve *directly* without the need of the experimental calibration that was necessary in the past. They include, at no extra cost, a new Teflon* stop which provides quick interchangeability and ball replacement. Guards feature strong Tenite II** outer plastic protecting tube not in contact with fluid. Parts of guards contacting fluid are corrosion resistant stainless steel and Hycar*** rubber.

*Trade-mark for DuPont Tetrafluorethylene Resin.

**Tennessee Eastman.

***B. F. Goodrich Chem. Co.

FLOWMETERS, plain ends, complete, without guards or joints. Meters come with stainless steel and non-metallic balls which may be used individually or combined.

Catalog No.	Max. Reading, ml./minute†		Each
	Air	Water	
36-541-03	83.8	1.35	29.50
36-541-07	426	10.30	29.50
36-541-12	2120	59.5	29.50
36-541-21	18400	545.	29.50
36-541-30	68200	2070.	31.00

FLOWMETERS, complete with male inlet and female outlet joints, but without guards.

Catalog No.	Max. Reading, ml./minute†		No.	Each
	Air	Water		
36-541-04	83.8	1.35	10/30	36.00
36-541-08	426	10.30	10/30	36.00
36-541-13	2120	59.5	12/30	36.00
36-541-22	18400	545.	14/35	36.00
36-541-31	68200	2070.	19/38	37.00

FLOWMETERS, complete with guards.

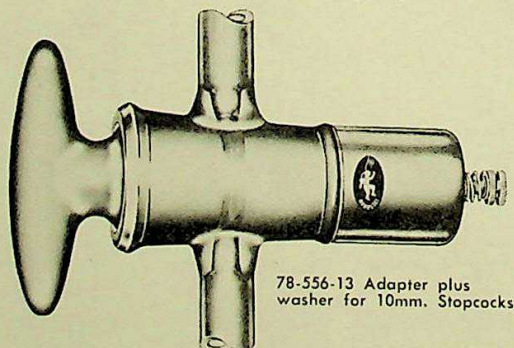
Catalog No.	Max. Reading, ml./minute†		Each
	Air	Water	
36-541-05	83.8	1.35	44.00
36-541-09	426	10.30	44.00
36-541-14	2120	59.5	45.00
36-541-23	18400	545.	59.00
36-541-32	68200	2070.	59.90

†For stainless steel ball. Approximately 1/2 for non-metallic ball. Minimum reading approximately 1/10 of maximum.

For further information, write for bulletin.

Make pressure tight Stopcocks out of any Stopcocks with MANOSTAT STOPCOCK ADAPTERS

Covers full range of laboratory stopcocks



78-556-13 Adapter plus washer for 10mm. Stopcocks

The adapter consists of an internal adjustable clamp made of corrosion resistant spring brass, Nickel plated, which grasps the stopcock plug and to which is fastened an aluminum screw. Fitting around this clamp is an aluminum barrel which rests against the shell of the stopcock. A beryllium bronze coil spring fits around the aluminum screw and two aluminum nuts are used to fix the compression in the spring against the aluminum barrel. An aluminum washer is used on the small sized stopcocks in the range of the adapters.

78-556-10: Stopcock adapter, Universal, complete with washer, for micro and 2mm. stopcocks each 2.85

78-556-11: Stopcock adapter, Universal, complete with washer, for stopcocks from 2 to 4mm. bore. each 2.85

78-556-12 Stopcock adapter, Universal, Medium, complete with washer, for stopcocks from 6 to 8mm. bore. each 3.90

78-556-13: Stopcock adapter, Universal, Large, complete with washer, for stopcocks from 10 to 15mm. bore each 6.50

10% discount in dozen lots.

MODULAR REPLACEABLE BURETS* & TIPS for Teflon** Needle Valves

(2mm., Catalog No. 78-425-01)

■ Replaceable glassware and tips ■ Fine end point control with needle valve ■ Eliminates stopcocks ■ No stopcock freezing or grease contamination ■ Easy cleaning ■ Interchangeable with other glassware, (ask for separate listing) ■ Can be used right or left hand simply by rotating valve.

CATALOG NO.	DESCRIPTION	CAPACITY	SUBDIVISIONS	PRICE
08-048-00-15	Needle Valve Buret, MICRO.	0.5ml	.001ml	\$15.75
08-048-00-25		1.0	.002	15.75
08-048-00-30		2.5	.005	14.50
08-048-00-50		5.0	.010	14.50
08-052-00-15	Needle Valve Buret with side arm filling, MICRO, complete with two needle valves.	0.5ml	.001ml	\$24.20
08-052-00-25		1.0	.002	24.20
08-052-00-30		2.5	.005	23.40
08-052-00-50		5.0	.010	23.40
08-054-00-15	Needle Valve Buret with hose connection, side arm, MICRO.	0.5ml	.001ml	\$15.75
08-054-00-25		1.0	.002	15.75
08-054-00-30		2.5	.005	15.30
08-054-00-50		5.0	.010	15.30
08-056-00-15	Needle Valve Buret with automatic zero and side arm filling, MICRO, complete with overflow cup and two needle valves.	0.5ml	.001ml	\$27.25
08-056-00-25		1.0	.002	27.25
08-056-00-30		2.5	.005	27.00
08-056-00-50		5.0	.010	27.00
08-057-00	Replacement tip only, MICRO.			\$.80
08-038-00-01	Needle Valve Buret, MACRO.	10ml	.02ml	\$13.70
08-038-00-02		25	.05	13.70
08-038-00-05		50	0.10	13.70
08-038-00-10		100	0.20	14.50
08-042-00-01	Needle Valve Buret with side arm filling, MACRO, complete with two needle valves.	10ml	.02ml	\$22.40
08-042-00-02		25	.05	22.40
08-042-00-05		50	.10	22.40
08-042-00-10		100	.20	23.20
08-044-00-01	Needle Valve Buret with hose connection side arm, MACRO.	10ml	.02ml	\$14.50
08-044-00-02		25	.05	14.50
08-044-00-05		50	.10	14.50
08-044-00-10		100	.20	15.30
08-046-00-01	Needle Valve Buret, with automatic zero and side arm filling, MACRO, complete with overflow cup and two needle valves.	10ml	.02ml	\$25.70
08-046-00-02		25	.05	25.70
08-046-00-05		50	.10	25.70
08-046-00-10		100	.20	27.00
08-047-00	Replacement tip only, MACRO.			\$.80

* Buret tubes are Pyrex Brand glass and are accurately calibrated to Bureau of Standards tolerances.

** Du Pont trade name for polytetrafluorethylene

08-044
08-054

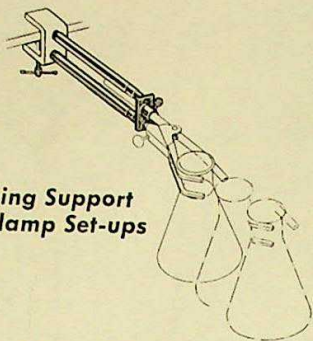
08-046
08-056



**GREINER
SCIENTIFIC**
CORPORATION

• STRETCH-ARM

Expandable, Telescoping Support Arm for Laboratory Clamp Set-ups



Quality constructed of lightweight sections of chrome plated brass tubing. Stretch-Arm measures 7½ inches when fully retracted—18 inches when fully extended or any length in between. This gives you a full 10½ inches of adjustable length. When fully extended, Stretch-Arm can support a 1000 ml flask filled with water, or any object of similar weight. When retracted, its capacity is even greater.

79-094-61 Stretch Arm, complete with aluminum "C" clamp for securing to edge of table or lab bench, but without apparatus clamp each **9.95**

79-094-62 Stretch-Arm complete with aluminum rod for securing to support frame, but without apparatus clamp each **8.95**

Minimum order 10.00—may be combined with other items.

MANOSTAT § JOINT CLAMPS

A practical, standard taper glass joint clamp that provides both positive adjustable closure and fits into place without requiring disassembly of completed apparatus. Manostat's simplified stainless steel clamps are made with polypropylene inserts that withstand temperatures up to 300°F. After slipping insert and clamp over the joint from the large end, screw metal parts together, tightening them until positive closure is attained. The plastic insert equalizes pressure all along the joint, thus taking up any stresses that might be placed on the glass. There are no awkward protrusions, because the functionally slim clamps lie closely over the joint.

CAT. No.	§ SIZES	PRICE EACH	DOZEN
18-837-01	10/30	2.20	23.76
18-837-02	12/30	2.50	27.00
18-837-03	14/35	2.60	28.08
18-837-04	19/38	2.70	29.16
18-837-05	24/40	3.35	36.24
18-837-06	29/42	4.15	44.88
18-837-07	34/45	5.50	59.40
18-837-08	40/50	8.50	91.80
18-837-09	45/50	10.00	108.00

Minimum Order 10.00—may be combined with other items

• PETRI DISHES

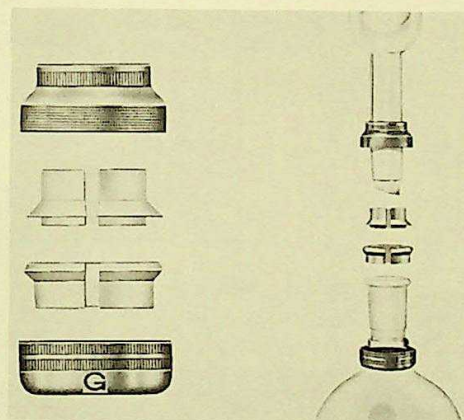


Made from transparent, unbreakable **polycarbonate**. Provides maximum resistance to shock. Nontoxic, will not affect contents. May be autoclaved under standard conditions. Use from -100°C. to +135°C. In 100 x 15 mm. size only; 10 pairs (dish and cover) per package; 6 packages per case.

29-393 DISHES, PETRI, NALGENE

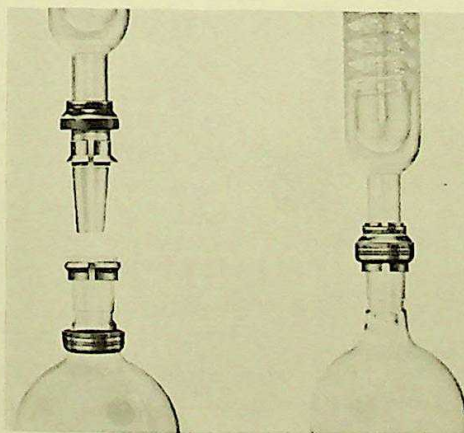
Price, per pair **.68**
Case of 60 **36.72**

Minimum order 10.00—may be combined with other items.



§ clamp disassembled into its four components.

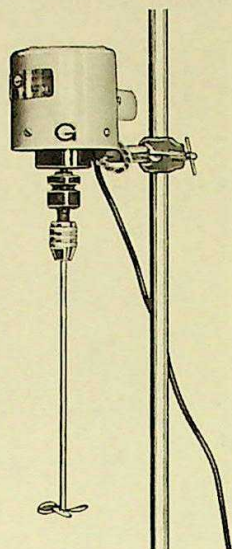
Slide metal rings over large end of joints.



Slide slit plastic bushing over large end of joint.

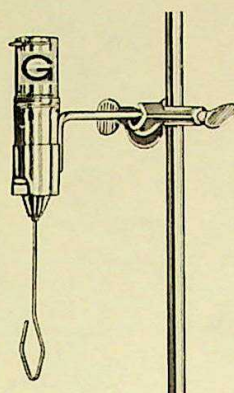
Thread two metal rings together to complete assembly.

• **GENERAL
PURPOSE
LABORATORY STIRRER**



This stirrer is a compact, ruggedly built unit which is suitable for most laboratory stirring operations. Will agitate over 15 gallons of water thoroughly and continuously. Unit features direct drive and is powered by a 1/50 H.P. air cooled motor. An efficient, lightweight, trouble free performer with a really painless price tag!

77-920-52 General Purpose Laboratory Stirrer, complete with mounting bracket and 10 inch agitator paddle plus drill chuck with pulley attachment, but without stand. Operates on 115 volts 60 cycles A.C. ea. **29.95**



• **BATTERY POWERED STIRRER**

This little battery powered stirrer will come in handy anywhere! Use it to stir or mix small volumes of liquids in beakers, bottles, glasses etc. You can use it as a hand stirrer—fingertip pressure on push-button activates stirrer rod. Handy detachable bracket lets you clamp it to a laboratory stand for longer stirring operations! Teflon coated stirrer blade. Battery can be replaced simply and easily—just like a flashlight. Attractive chrome plated housing. Weighs only a few ounces.

77-920-51 Battery Powered Stirrer, complete with mounting bracket, Teflon coated stirrer rod and batteryea **5.95**

Minimum order 10.00—may be combined with other items

Laboratory Printed Circuit Kit

**Quick, Easy Way To Make Your
Own Printed Circuits!**

Here is a completely self-contained kit which is ideal for the industrial engineering laboratory. Now you can make professional printed circuit boards with ease, speed and economy never before possible. All necessary materials are contained in this compact Electro-Kit—a time-saving printing frame assembly that includes a large, spring loaded printing frame and a two-lamp light bar mounted on a base. Over 5 square feet of presensitized single and double sided phenolic XXXP and flame-resistant glass epoxy G-10 board material, 1/2 gal. etching solution, 1 pt. developer, two developing trays, eyelets, time-saving printed circuit layout and drafting materials, and two photo flood lamps.

32-106-10 Laboratory Printed Circuit Kit, complete as describedea. **99.95**



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• **NEW LAB-LINE
MICRO-MIXER**

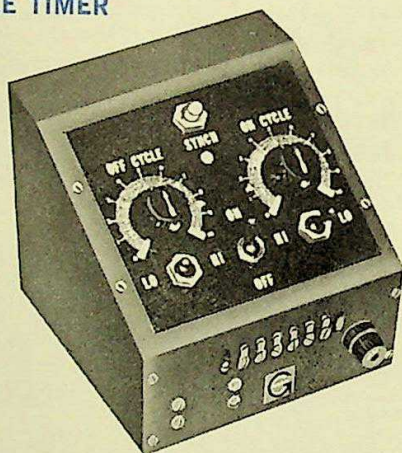
*For Micro Tubes
Vials and Other
Small Glassware*



A brand new addition to the Lab-Line Super-Mixers. The handiest mixer available for a quick swish of tube contents when all that is needed is to prevent sedimentation or get a fast mix. The Micro-Mixer is not a substitute for the regular size Lab-Line Super-Mixer, nor is it designed for large size test tubes. It is designed to handle micro and other small volume solutions in the laboratory.

90-016-69 Lab Line "Micro-Mixer." Complete with motor; built-in Nylon mixing head and "Redi-Touch" automatic "start" and "stop" switch. Die-cast aluminum housing finished in grey hammerloid enamel. 6 ft., 3-wire line card and plug. Size 5" wide x 5" long x 5" high. ea. **39.50**

• **REPEAT CYCLE TIMER**



This timer is an electronic device employing one radio type vacuum tube and obtains its timing intervals by the charging of two resistance-capacitance networks. Operation is such that one cycle initiates the next cycle without any moving parts or external operation. The OFF and ON cycles are infinitely variable over the ranges specified below, and are substantially independent of one another. The timer is highly stable and only very slightly affected by changes in line voltage, temperature, etc. Timer intervals ON: 0.2 to 200 seconds; OFF: 0.1 to 60 seconds. Since the standard relay provides double throw, double pole, the intervals above are interchangeable. The contacts are rated at 10 amperes 115 volts non-inductive.

90-016-41 Timer, Repeat Cycle Complete as described for operation on 105-120 volts, 60 cycles A.C. in a steel, sloping front cabinet 6" x 6" x 6".ea. **72.00**

• **NEW LAB CON CO FIBERGLASS-28 FUME HOOD**



For under \$300.00 you can provide your laboratory with a full-duty, portable fume hood. This new addition to the popular line of all-fiberglass fume hoods from LABCONCO weighs only 70 pounds! The Fiberglass-28 Fume Hood measures 28" wide, 23½" deep, and 46" high. It is completely corrosion-resistant and non-inflammable. It is unique with its lack of metal—even the blower is formed of chemically-resistant resin. The Fiberglass-28 Fume Hood is complete: has a motor, baffle, light, switches, and counter-balanced ¼" Plexiglass sash.

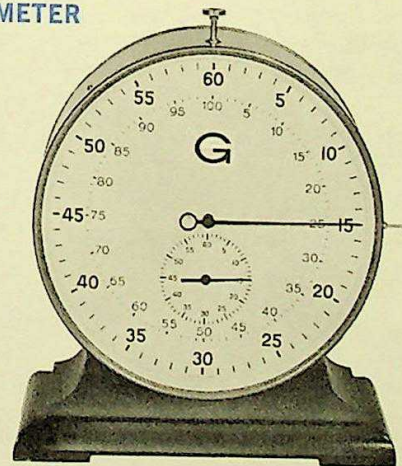
36-695-52 Fiberglass-28 Fume Hood Green,
complete **295.00**

36-695-53 Fiberglass-28 Fume Hood Gray
complete **295.00**

*For complete literature showing accessories and applications,
write for bulletin.*

• **GIANT 8" DIAMETER
STOP CLOCK**

**With Instant
Flyback**

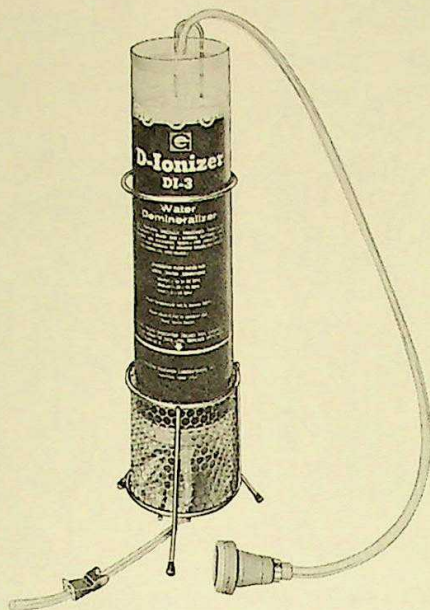


Reads seconds up to 60 minutes on outside scale. Reads hundredths of minutes up to 60 minutes on inside scale. Operation: Start and stop with side lever. Snap back to zero with top button. Positive perfect zero position on the flyback.

90-016-79 Giant 8" Diameter Stop Clock with wooden base. Fitted with loop for wall mounting. Overall height 10½".ea. **45.00**

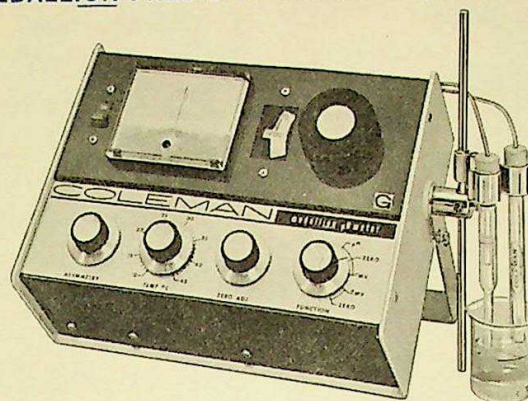
• **MEDALLION PRECISION PORTABLE pH METER**

• **NEW
LOW COST
D-IONIZER**



A low cost—multi-purpose faucet connected water de-mineralizer for laboratory - industry - science. Tap water is made free of hardness and all other types of dissolved ionized solids — right before your eyes — with the D-ionizer, Model DI-3. Stands or hangs. Strong action Deeminite resins grip and hold all types of dissolved ionized solids — even silica, carbon dioxide (CO_2), concentrations of dissolved chlorine normally found in municipal water, etc. Resins change color progressively from top toward bottom to indicate degree of exhaustion.

90-016-65 D-ionizer, Model DI-3 complete as shown. Overall height 19½", Base diameter 6". Total grain removal capacity 1220 grains as NaCl (1040 as CaCO_3). Flow rates as indicated on filter cartridge. Corrosion resistant metal holding stand with hanger— attractively finished in Aqua.ea. **19.95**
90-016-66 Replacement Cartridges for Model DI-3 D-ionizer of rigid transparent plastic.ea. **14.95**



The Coleman Model 37 Medallion pH meter is a precise instrument for pH and millivolt measurements. It also may be used as a high-precision source of voltage from 0 to 1500 mv. For general laboratory use, the instrument has provision for operation on ac power lines. In addition, it may be operated on a rechargeable, nickel cadmium battery in areas of high electrical interference and areas where electrical power is not available. The instrument operates over the full 0-14 pH range with an accuracy of ± 0.001 pH at the standardization point.

43-304 pH Meter Medallion, Coleman Model 37 complete with shielded glass electrode with 30' lead; reference electrode with lead; electrode holder clip; 1 vial, 4.0 pH buffer tablet; 1 packet 2.0 pH buffer tablet; 1 packet 9.0 pH buffer tablet; 2 oz. bottle 7.0 buffer solution; 2 oz. saturated KCl solution; electrode mounting post; auxiliary line cord and operating directions. For operation on 115-230v, 50/60 cycles. Nickel cadmium battery not included.

ea. **495.00**

43-304-51 Battery, nickel cadmium (rechargeable type) (GE42B904LD01)ea. **35.00**

For complete description of this pH meter and a complete Price List of all Coleman pH meters, electrodes, buffers, and accessories for pH measurement, write for bulletin B-296.

• **PC-100**

The New Corning 100 Square Inch Hot Plate



This new laboratory hot plate retains all the advantages of the recently introduced 35-square-inch Model PC-35 Hot Plate with the added convenience of a 100 square inch heating surface for those of you who require large

capacity hot plates. The PC-100 operates on 1320 watts and 120 volts. Its heating surface, made of Pyroceram® brand glass-ceramic, reaches 90° (860°F.) of its potential heat in just nine minutes. That's about 4 to 5 times faster than the metal unit tested. Like the model PC-35 it cools down faster than metal units of comparable wattage.

The inert, space-age ceramic used for the top plate is not only corrosion, rust and acid resistant, but it will not contaminate other materials. The top plate extends over the base to prevent spillage into internals.

43-290-05 Corning Hot Plate (PC-100) 100 Square inch, complete with 3-wire cord and prong. ea. **59.50**

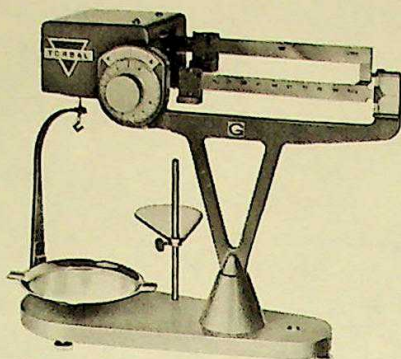
43-290 Corning Hot Plate (PC-35) 35 Square Inch, complete with 3-wire cord and prong.ea. **24.95**

90-016-87 Aluminum Ring Stand Clamp for attachment to above hot platesea. **1.50**

90-016-88 2-Prong attachmentea. **.50**

**GREINER
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CORPORATION

• **TORBAL DIAL
BALANCE**

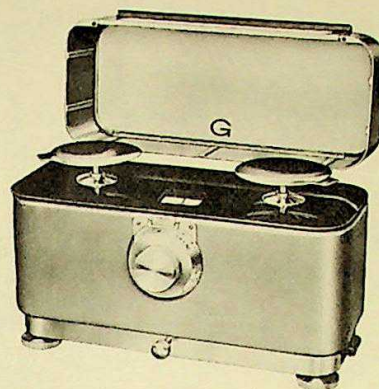


This new inexpensive, fast weighing balance made by Torsion has the following exclusive features: ± 10 Milligram Accuracy (not sensitivity). Fastest weighing because all loose weights are eliminated. Dial range is from 0 to 10 grams and with the vernier weight can be read to 10 milligrams. No knife edges to reduce accuracy. The Torbal has two notched beams, one a 100-gram beam with 10 gram increments and the other a 200-gram beam with 100-gram increments. Slide weights are specially designed for quick, easy and positive placement. The balance can be used to its full capacity, (310g) without any loose weights. No weights to hang on, become lost or inaccurate.

Weighing is also speeded up with Torbal's silicone fluid dashpot which damps the balance almost immediately and holds it at the rest point. Both the beam and dial can be handled without arresting the balance.

3-409 Torbal Dial Balance ea. **70.00**

• **TORSION'S NEW
DIAL READING
PRESCRIPTION
BALANCE**



Weights from .01 to 1 gram and $\frac{1}{8}$ to 15 grains are dialed-in without arresting the balance.

DRx Specifications:

Bureau of Standards Rating: Class A. Capacity: 120 grams (4 oz.). Sensitivity: $\frac{1}{32}$ grain (2 mg.). Sensibility Reciprocal: 0.1 grain (6.5 mg.) Dial: Graduated with double graduations; $\frac{1}{8}$ grain to 15 grains; $\frac{1}{100}$ gram to 1 gram. No small weights required below 1 gram or 15 grains. Pans: Polished stainless steel, $3\frac{1}{8}$ " diam. Torsion bands of corrosion-resistant alloy, with constant torsional properties over wide temperature range. Arrest: Positive-acting, non-corroding. Case: Metal case with special, scratch-resistant, hard gray finish, especially resistant to chemical corrosion. Black, glass top plate (overlapping) and glass in hinged cover. Overall Dimensions: $11\frac{1}{2} \times 6 \times 7\frac{5}{8}$ inches.

3-626-01 DRx Prescription Balance. ea. **200.00**

sartorius

SERIES 2100 BALANCES

In recent years, precision (top-pan) balances have brought new speed and accuracy to gross weighing procedures in many plants and laboratories throughout the United States. They have replaced more conventional weighing systems because of their numerous advantages including: Operating advantages — in regard to range, speed and versatility at a high accuracy and reproducibility.

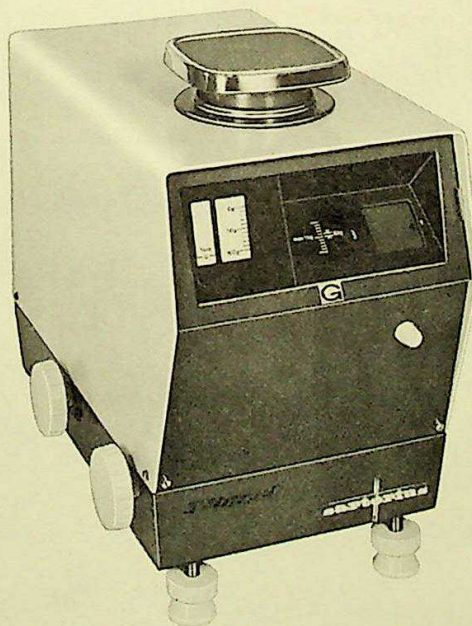
Convenience— they are permanently operative, have a great optical range and simplified controls, are mobile and require very little space.

Ruggedness — no special precautions are required in regard to use or maintenance.

Mechanical taring—featured on models with tare.

All balances listed below have loading scale and separate zero control.

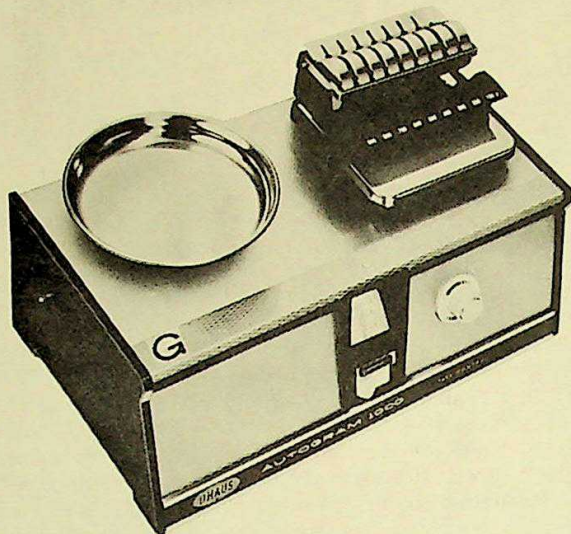
Catalog No.	3-661-03	3-661-06	3-661-09	3-661-12
Capacity	1000 g	1000 g	3000 g	3000 g
Projection Scale Range	100 g	100 g	1000 g	1000 g
Weights added mechanically	100-900 g	100-900 g	2 x 1000 g	2 x 1000 g
Scale Division	0.1 g	0.1 g	1 g	1 g
Readability	0.01 g	0.01 g	0.01 g	0.01 g
Accuracy	± 0.02 g	± 0.02 g	± 0.2 g	± 0.2 g
Mechanical Taring Range	—	101 g	—	500 g
Tare Indicator Scale	NO	YES	NO	YES
Price ea.	620.00	680.00	510.00	570.00



For complete details, write for bulletin.

OHAUS AUTOGRAM 1000 BALANCE

Direct Reading,
Rapid Magnetic Damping



Readings 0.1 gram up to 1 kilogram can readily be made through the combined use of optics and a unique system of weight loading. Speedy weighings are assured by efficient, permanently adjusted magnetic damping, and trouble-free external weights which are readily manipulated from the integral storage rack. No time consuming leveling is required as balance is not sensitive to out-of-level conditions.

The direct reading optical scale has graduations to 100 grams and is readable to 0.1 gram by means of a vernier. The precision of the balance is 0.05 gram and linearity is 0.10 gram. Weighings over 100 grams are quickly made by using the weight loading system on the right platform.

A removable stainless steel pan, 6" diameter by 3/4" deep, is standard equipment. A stainless steel scoop, 12" by 6" by 2 3/4" deep, or animal subject pan may also be used.

3-651 Autogram 1000 Balance ea. **295.00**

Accessories

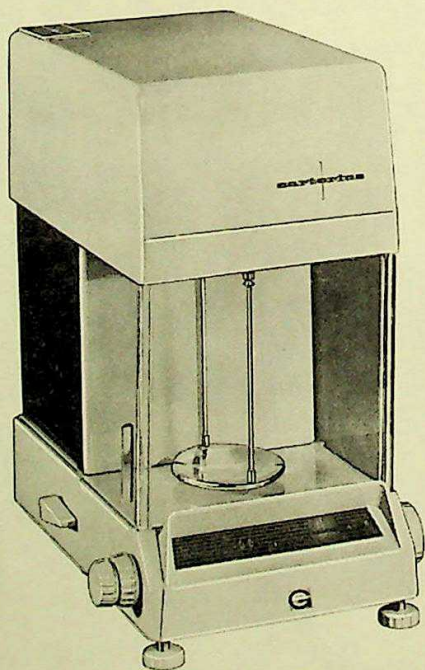
3-651-51 Stainless Steel Plate 6" diam...... ea. **5.00**

3-651-52 Stainless Steel Scoop 12"x6"x2 3/4"
deep ea. **10.00**

3-651-53 Animal Subject Pan..... ea. **15.00**

sartorius

SERIES 2400 BALANCES



Better Access to the Weighing Chamber—Access to the pan has been improved through elimination of the traditional front corner posts. Sliding glass doors on either side provide easy access to the large weighing chamber. Unique Optional Features—Models are available with an exclusive mechanical tare for the full optical range. This system is based on a rapid one-step operation; the zero adjustment knob covering the full optical range in a few seconds of manipulation. No weight dialing is required. Also models are available with a capacity of 220 grams via a manual 20 gram tare weight and a stainless steel weighing boat. And a model is available with a capacity of 150 grams via a manual 50 gram tare weight and stainless steel weighing boat.

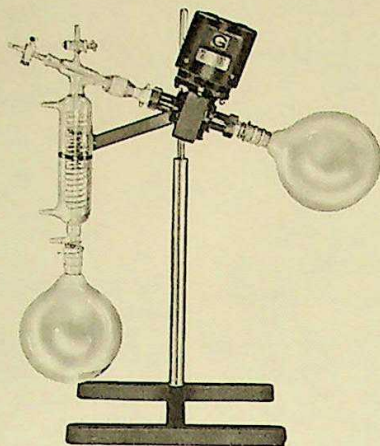
Catalog Number	2-603-02	2-603-03	2-603-10	2-603-12
Maximum Capacity (with optional manual tare added)	220 g	150 g	220 g	150 g
Built-in Weights (added with knobs)	1-199 g	1-99 g	1-199 g	1-99 g
Manual Tare (optional)	20 g	50 g	20 g	50 g
Optical Range	1 g	1 g	1 g	1 g
Optical Tare Range	—	—	1 g	1 g
One Optical Scale Div. (digital)	10 mg	10 mg	10 mg	10 mg
One Micrometer Division (digital readability)	0.1 mg	0.1 mg	0.1 mg	0.1 mg
Precision (standard deviation)	±0.05 mg	±0.05 mg	±0.05 mg	±0.05 mg
Accuracy in Optical Range	±0.05 mg	±0.05 mg	±0.05 mg	±0.05 mg
Price Each	725.00	595.00	805.00	675.00

For more complete information, write for bulletin or ask for demonstration.



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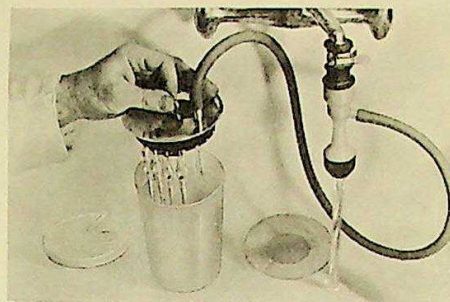
• **PORTABLE
FLASH
EVAPORATOR**



The Buchler Portable Flash Evaporator with Spiral Condenser combines all advantages of portable units while eliminating the need for a separate cooling arrangement. A large bore rotating teflon joint, connecting the condenser to the rotating sleeve, assures a tight vacuum seal. With the continuous feed adapter arrangement as part of the condenser assembly, the bulk of the solution to be evaporated can be stored in a reservoir outside the evaporator flask and fed in at a rate equal to the evaporation. The same inlet tube permits introduction of inert gases, if needed.

90-016-67 Buchler Portable Flash Evaporator, as illustrated (but without evaporating and condensing flasks); complete with rotatable 90 rpm motor, stand, glass spiral condenser, glass sleeve, continuous feed adapter, teflon rotating joint, arm with band clamp, 2 TS clamps 24/40; for operation from 115 volts, 50-60 cycles AC ea. **199.10**

• **ADAMS PIPETTE WASHERS AND ASPIRATOR**



Adams Pipette Washers Clean up to 18 pipettes simultaneously. Constructed of rubber and aluminum—and the Aspirator of molded polyethylene. Washer flap valves lift for insertion of pipettes of various sizes; unused holes are automatically closed off.

90-016-75 Adams Standard Pipette Washer Outfit for blood diluting, Sahli, sedimentation and similar pipettes, complete with 18-place Washer and 3 each Polyethylene Cleaning Jars with Covers. ea. **10.00**

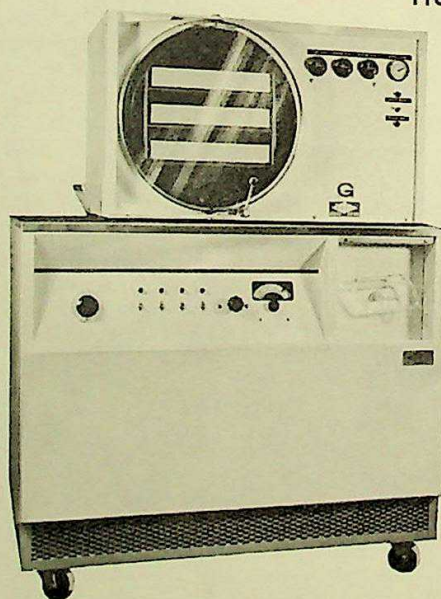
90-016-76 Adams Lambda Pipette Washer Outfit for ultra lambda pipettes such as Kirk, Lang-Levy and similar types, complete with 18-place Washer and 3 each Polyethylene Cleaning Jars with covers. ea. **13.75**

90-016-77 Polyethylene Cleaning Jar complete with cover. ea. **1.40**
dozen **14.40**

90-016-78 Adams Aspirator, molded polyethylene aspirator pump complete with universal faucet attachment, non-splash screen and 3 ft. of rubber tubing. ea. **5.00**
dozen **50.00**

VIRTIS MECHANICALLY REFRIGERATED FREEZE-MOBILE

Three Tray, Front Loading, Bulk Freeze-Dryer. Samples Automatically Frozen and Freeze-Dried. Large Capacity—Seven Liters of Material Can Be Processed At One Time.



Write for bulletin giving complete details.

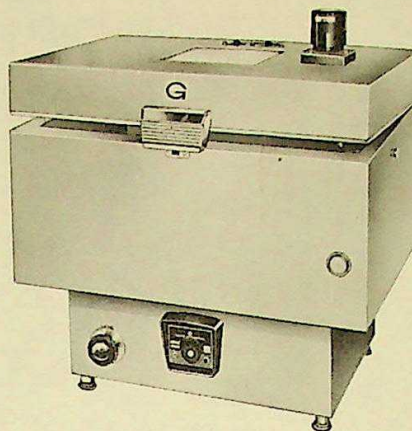
Large volume freeze-drying procedures are usually processed with greater convenience in a single vacuum chamber in place of connecting a number of containers individually to ports on a manifold. Materials may be poured directly into the trays in the Mechanically Refrigerated Freeze-Mobile. Or samples may be placed in virtually any type of container such as serum bottles, beakers and Petri dishes. A separate, self-contained refrigeration system in the Tray Drying Chamber component of the Freeze-Mobile cools the three process shelves to a maximum low of -30°F to pre-freeze samples. During drying each shelf is individually electrically heated and thermostatically controlled between $+60^{\circ}\text{F}$ and $+200^{\circ}\text{F}$ to expedite sublimation rates.

90-016-68 Virtis Mechanically Refrigerated Freeze-Mobile ready to operate except for 9 ml. of mercury for the McLeod Gauge. Includes Mechanically Refrigerated Freeze-Mobile Cabinet and Tray Drying Chamber. Current consumption is 22 amps, 115 volts, 60 cycle, AC. ea. **3,725.00**

• LAB-LINE ORBIT INCUBATOR-SHAKER

The Lab-Line "Orbit" Incubator Shaker is designed for growing aerobic and anaerobic cultures in an incubator environment under conditions requiring agitation and controlled temperature. A double-wall incubator housing with 2" of air cell insulation completely encloses the shaking platform. Temperature is fully controlled to $+60^{\circ}\text{C}$. by circulating heated air; lower temperatures are obtained by placing the unit inside a cold room. Range, ambient to 60°C . Chamber 34" W x 22" L x 15" D. Exterior 38" W x 26" L x 32" H. Includes $\frac{1}{4}$ Hp. heavy-duty, ball bearing, sealed motor for shaking mechanism; triple-eccentric drive and stabilizer assembly; speed control knob; induction blower motor; 2 UL approved bi-metallic thermostats; 2 pilot lights; 2 "On-Off" switches; 2 adjustable air vents; dial thermometer; bakelite control panel; double-wall steel housing with 12" x 12" multi pane viewing window in hinged cover; 2" of air-cell insulation throughout; refrigerator-type hardware; 4 rubber-cushioned feet; 6 ft., 3-wire line cord and plug. 1000 Watts total, 115-120 Volts, 60 cycles, single phase. Net wt. 325 lbs. Ship. wt. 450 lbs.

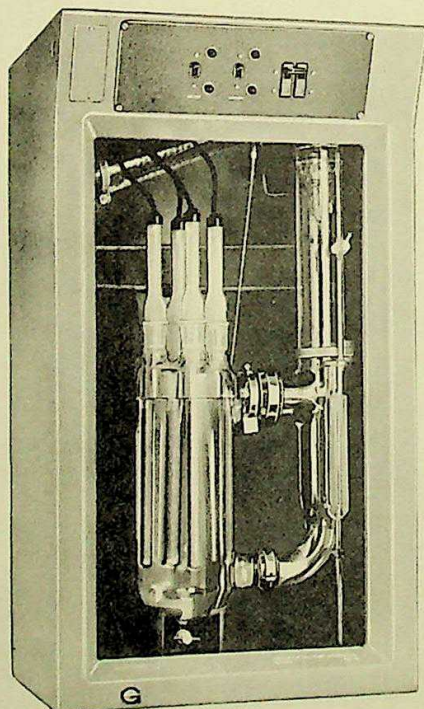
Available for 220/440 Volts, 50 cycle if desired.



COMPLETE WITH 30" W x 19" L PLATFORM				Price with Platform
Catalog No	No. of Clamps	Size of Glassware		
90-016-70	108	50 ml. Erlenmeyer Flask		1100.00
90-016-71	60	125 ml. Erlenmeyer Flask		1090.00
	Tubes per Rack	No. of Racks		
90-016-72	15	4	Adjustable Angle Test-Tube Rack; Accommodates test tubes from 16mm. to 25mm. Can be adjusted 4° to 50° from horizontal.	1095.00

Write for bulletin giving complete details.

• CORNING® MODEL AG-10 ALL-GLASS AUTOMATIC WATER DISTILLATION APPARATUS



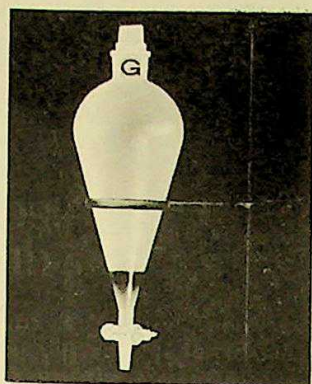
Produces 10 Liters Per Hour of Pure Glass-Distilled Water. Merely connect your water tap to this packaged distillation unit and it's ready to produce a continuous 10 liters per hour of highly purified water. You needn't worry about metal contamination or corrosion because all wet surfaces are Pyrex® ware except the Vycor® brand immersion heaters and the Teflon® stopcocks. A thermostat on the boiler shuts off the power supply if your water source is interrupted or falls below operating level. A vapor vent carries off volatile fumes. A unique baffle prevents splashover. The transparent construction of the AB-10 lets you check quickly the amount of accumulated impurities. A quick flush with HCl and clear water cleans it to like-new condition. You can adapt it to work as the second stage of a double distilling operation. SPECIFICATIONS: Capacity: 10 liters per hour. Water Purity (single distilled): resistivity, 1.7 megohms-cm; pyrogen-free per U.S.P. XVI; total solids, 0.18 ppm. Power Requirements: 220 volts, 40 amps. Controls: low-water cutoff constant-level device. Cooling Water Consumption: about 25 gallons per hour. 44½" high x 25" long x 16" deep.

30-874-02 Distilling Apparatus Water, Packaged 10-Liter Still	ea.	1,135.00
90-016-73 Double distillation kit	ea.	15.50
90-016-74 12-Gallon collection bottle with stopcock	ea.	64.10



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• FUNNELS



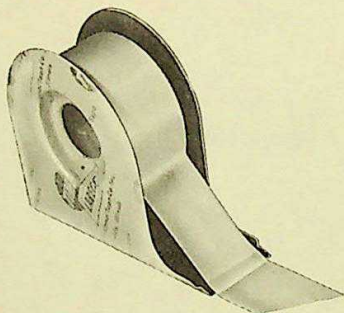
Squibb pear shape separatory funnels. Unbreakable, unusually clear **Polypropylene**. Separation line between even two water-clear liquids easily visible down to stopcock housing. New Technique permits molding funnel and stopcock housing in one sturdy piece. Teflon TFE plug works smoothly without lubrication. Autoclavable . . . easy to clean. When the stem is cut off, the 125 ml. size may be used for centrifuging.

37-289 Funnels, Separatory, Squibb, Nalgene

Cap., ml.	125	250	500
Stopper size,	13	22	27
Stem length below stopcock, mm.	23	23	23
No. in case	6	4	4
Price, each	8.50	9.80	11.50

Discounts: Less 10% in case lots.

• TIME TAPE



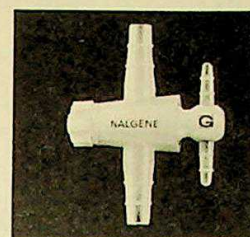
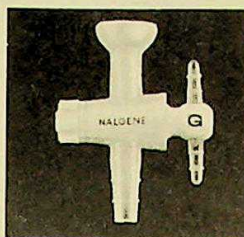
Highest quality vinyl-coated paper tape with a pressure-sensitive adhesive. Soft satin finish for pencil, pen or ball-point markings. Can be used in ovens, sterilizers, autoclaves, incubators, water or oil baths, deep freezers, refrigerators. Unaffected by temperatures from -70° to $+250^{\circ}\text{F}$. Oil-proof, water-proof, acid resistant. Time Tapes and Labels will stick to any surface—wood, glass, plastics, metal, rubber, or any type of laboratory container—under all conditions. Supplied in 500 inch rolls. *Please specify color when ordering.*

Catalog No.	Quan. Subject To 10% Disc.	Size (Inches)	Per Roll
50-168-01	(24)	$\frac{1}{2}$.77
50-168-03	(16)	$\frac{3}{4}$	1.04
50-168-05	(12)	1	1.32
50-168-07	(8)	$1\frac{1}{2}$	1.87
50-168-09	(6)	2	2.14

Dispensers for $\frac{1}{2}$ " and $\frac{3}{4}$ " rolls, .29; for 1", .49; for $1\frac{1}{2}$ " and 2", .79.

Minimum order 10.00—may be combined with other items

• STOPCOCKS, NALGENE



Polypropylene stopcock with Teflon TFE plug. Serrated tabulation on each end. Takes $\frac{1}{4}$ " to $\frac{3}{8}$ " tubing. Packed 6 per case.

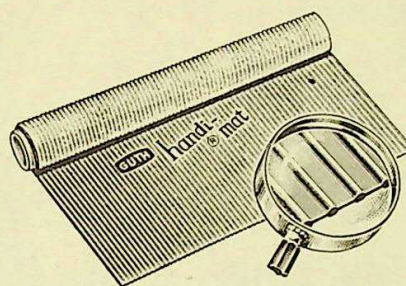
78-419-60 Stopcock, Nalgene 2 mm bore . . . ea. 4.80
4 mm bore . . . ea. 4.80

Polypropylene stopcock with Teflon TFE plug. Has $12/5$ socket joint one end; serrated tabulation other end takes $\frac{1}{4}$ "- $\frac{3}{8}$ " tubing. Packed 6 per case.

78-419-62 Stopcock, Nalgene 2 mm bore . . . ea. 6.50
4 mm bore . . . ea. 6.50

Discounts: Less 10% in case lots.

Minimum order 10.00—may be combined with other items.



• HANDI-MAT

This clear polyethylene ribbed matting with an overall thickness of .030", comes in convenient rolls for easy use and storage. Use it to cover laboratory shelves, desks, tables, floors—or for lining drawers. Provides clean, cushioned surface. Can be used as a convenient drain pad. Minimizes glassware scratching and breakage.

74-796 Handi-Mat, 30" x 15 ft. roll, per roll 4.40
74-796-52 Handi-Mat, 30" x 100 ft. roll, per roll 27.00

Minimum order 10.00—may be combined with other items.

• DISPOSABLE PLASTIC APRONS

White opaque, linen finish vinyl 27 x 42". Water, oil and chemical resistant. Packed 12 to poly bag.

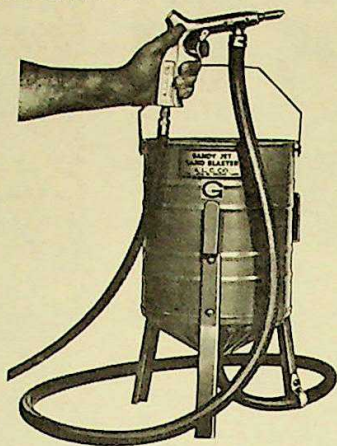
1-463-02 Disposable Plastic

Aprons doz. 2.25
gross 24.48



Minimum order 10.00—may be combined with other items

• SANDY JET SAND BLASTER

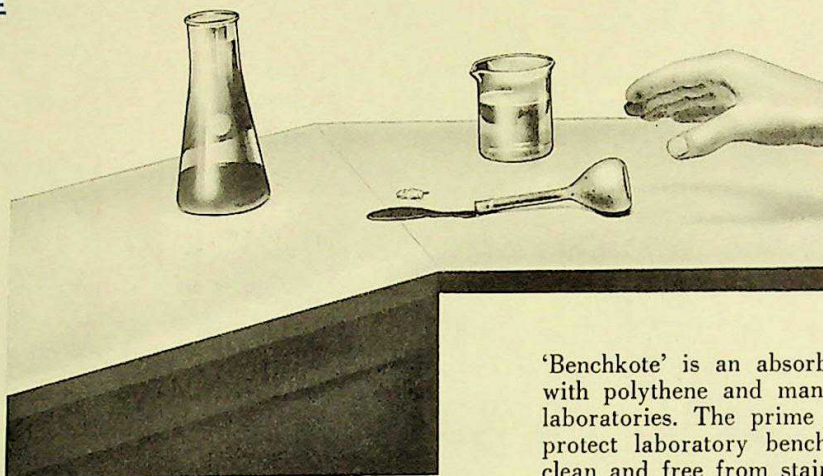


This new rugged blast gun is equipped with a trigger for quick finger-tip control of air pressure. Air and sand blast action is put to work by squeezing gun-type trigger. Releasing pressure on the trigger shuts it off. Operating air pressure: From 50 to 225 lbs. Volume of air required at 100 lbs. Abrasive material: Silica or any hard sand, nut shells, metal shot, aluminum oxide, and others are available at Foundry or Building Supply Stores.

90-016-82 Sandy Jet Sand Blaster complete with New Model "C" Power Gun, Container for 60 lbs. of abrasive and 7-foot hose connecting Gun to Container, Operator's Face Shield and Hood, Two extra ¼" nozzles and one ⅝" Air Jet, Allen Wrench.

Complete **39.95**

• BENCHKOTE



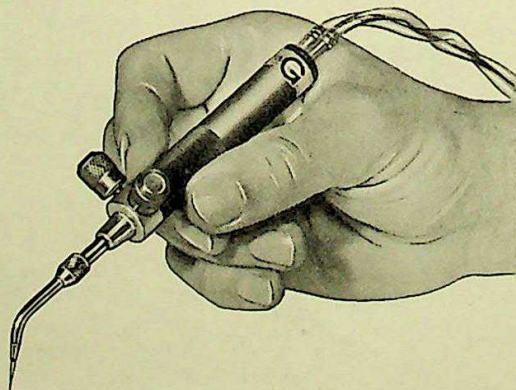
'Benchkote' is an absorbent paper coated on one side with polythene and manufactured especially for use in laboratories. The prime purpose of the material is to protect laboratory bench surfaces . . . to keep them clean and free from stain and corrosion. The polythene coating serves a double purpose—it prevents liquids penetrating right through the paper and gives it wet strength and durability.

90-016-80 Benchkote: Package of 50 sheets 46 x 57 cm **9.90**

90-016-81 Benchkote: Roll 50m x 46cm **16.50**

90-016-81 Benchkote: Roll 50m x 92cm **27.90**

• THE LITTLE TORCH



The Little Torch is a versatile new lightweight (1½ oz.) micro-flame torch which provides flame temperatures up to 6300°F. It is used with oxygen and fuel gas (acetylene, hydrogen, LP-gas, or natural gas). It is a precision instrument which accomplishes pin-point accuracy in control of the flame.

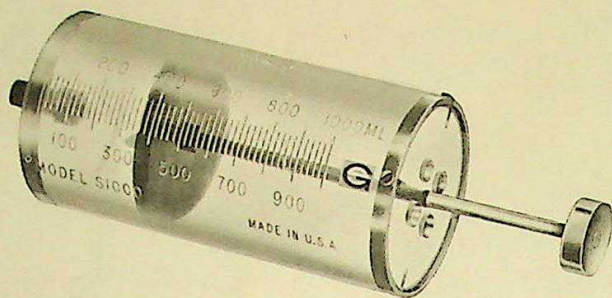
The 5 tips afford an array of flame settings which will weld from tiny filaments up to 16 gauge steel (1/16"). Tips are bent 45° and swivel 360° for flexibility in maneuvering under limited access conditions.

90-016-83 Little Torch Kit consists of a torch body, 5 tips, 6 feet of hose, and instructions. Valves, hose connections and hose are all color-keyed (red—fuel gas; green—oxygen). Tips slip in and seat positively with a screw-on tip nut. They cannot pop off, regardless of pressure. Complete **59.50**



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• HAMILTON SUPER SYRINGES



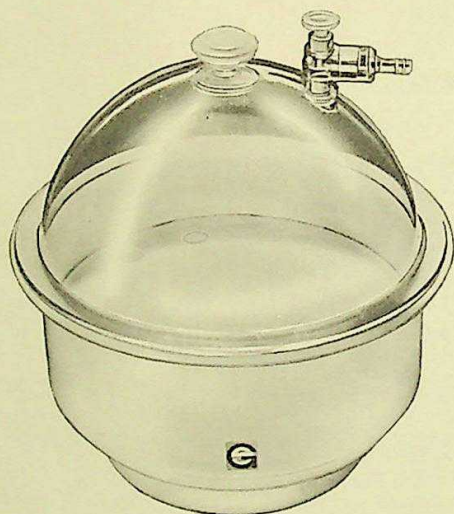
A convenient, simple and accurate method to deliver known volumes of gas. The cylinder is made of acrylic resin, with an aluminum piston and a Buna-N "O" ring seal. The super syringes are calibrated on the barrel in 20 ml increments. The syringe terminates in a standard tracheal male fitting.

40-470-12 Super Syringe 0.5 liter capacity. ea. 90.00

40-470-15 Super Syringe 1.0 liter capacity. ea. 100.00

40-470-18 Super Syringe 1.5 liter capacity. ea. 100.00

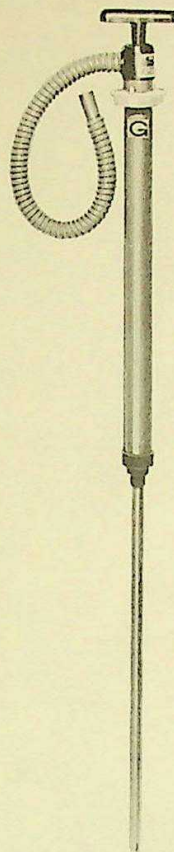
• PLASTIC DESICCATOR



This unique plastic desiccator permits application of high vacuum which is retained by a specially designed retention valve located on the upper section. When release of vacuum is desired, the valve stopper is rotated to permit gentle entrance of air preventing damage to crucibles. It has good chemical resistance, and permits the use of incandescent crucibles with conventional plates or porcelain stands. The lower section of the desiccator is made of tough ivory color polypropylene with a high gloss finish. The upper section is a hemispherical dome of unbreakable, transparent polycarbonate with a slight amber tint.

Catalog No.	28-994	28-994-01	28-994-02
Flange O.D.	6¾"	9¼"	11¼"
Inside Diam.	5⅞"	7¾"	9¾"
Takes Plate	#3 140 mm	#4 190 mm	#5 230 mm
Overall Hgt.	7½"	9½"	11½"
Price	18.75 ea.	22.50 ea.	35.50 ea.

• ALL PLASTIC HAND PUMP



For transfer of Alkalis, Detergents, Waxes, Petroleum Products from Steel or Polyethylene Drums and Carboys. Made of all poly vinyl chloride with valves of Hypalon. Not recommended for use with solvents and solutions containing aromatic hydrocarbons or keytones.

90-016-86 Hand Pump for use in drums. This model has a body 18" long and dip tube 18" long to reach the bottom of a 55 gallon drum. The body is 1¼" in diameter. Comes equipped with 18" flexible hose to enable you to place the nozzle in the other barrel bung to prevent dripping. Will deliver approximately 8 oz. per stroke.
ea. 6.95

Please specify when ordering whether bung is standard 2" thread or Delaware closure used on S.S. drums.

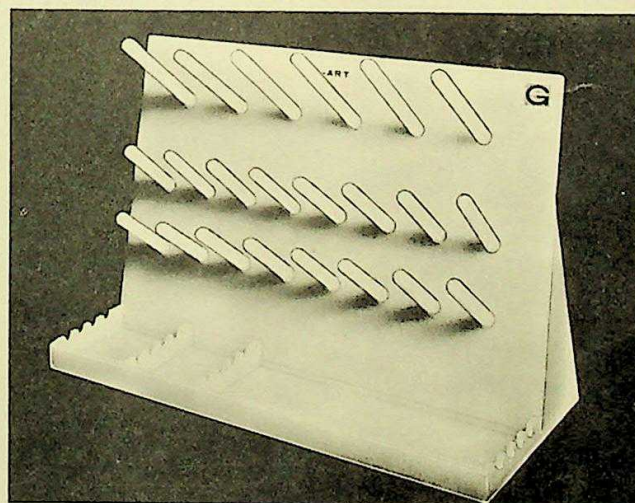
90-016-84 Hand Pump for use in 5 gallon polyethylene carboys with 53 mm cap. ea. 6.95

90-016-85 Hand Pump for use in carboys with 83 mm cap. ea. 7.95

Dip tube supplied can be cut for use with any size carboy or drum.

Minimum order 10.00—may be combined with other items

• BENCH LABRACK



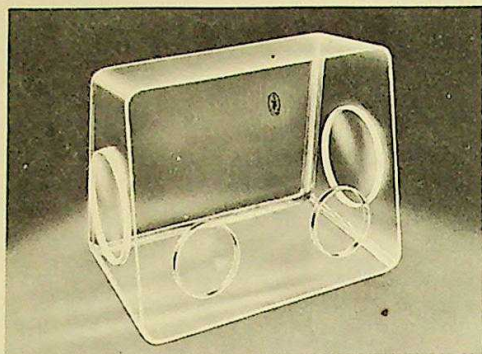
The bench model polyethylene test tube drying rack is free standing and versatile. The sloping rack gives increased pin angle. Tray compartments in back and in front create handy storage areas for glass tubes, pipettes, etc. Front tray has scalloped edges to hold pipettes and glass rods of various lengths. Rack is 12" high x 18" wide with 6 pins 5" long and 16 pins 3½" long . . . all pins ½" diameter, Unit measures 8" front to back.

79-376 Bench Labrackea. 18.00

312/1 BILITY--ALL PLEXIGLAS* GLOVE BOXES From \$186

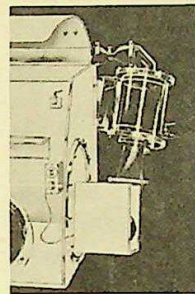
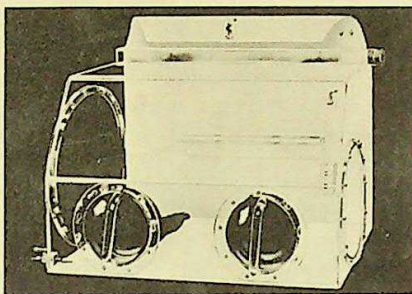
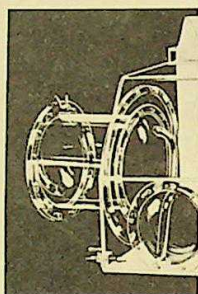
Manostat Plastic Glove Boxes have true one-piece construction, achieved with a chemical weld. Despite their moderate price, these boxes are designed and constructed with such de-luxe features as positive "O" ring seals throughout, for leak-proof performance . . . and a full diameter side entry, for maximum convenience. The Rohm & Haas Plexiglas 11-UVA is unaffected by most

inorganic solutions, mineral and animal oils, low concentrations of alcohol, paraffinic and olefinic hydrocarbons, amines, alkyl monohalides, and esters containing more than ten carbon atoms. Cylindrical construction with dome cover plates on vacuum box will withstand full vacuum, making it possible to introduce any controlled atmosphere with great care.



Economy Glove Box fabricated of 5/16" Rohm & Haas Plexiglass 11-UVA, the front plate is welded to a one-piece mold in such a way, as to give an hermetic seal. Over-all dimensions are 36" wide, 20" deep and 26" high. The two 12" side entries have readily removable covers, and the 8" circular glove holes will accept any standard glove box glove. Especially recommended is our 41-907-31 glove, which has the exclusive replaceable hand with "O" rin connection.

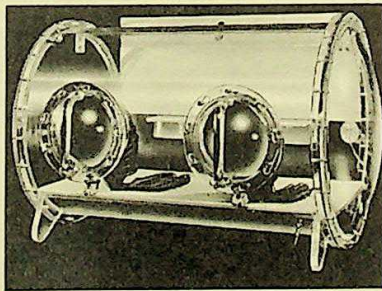
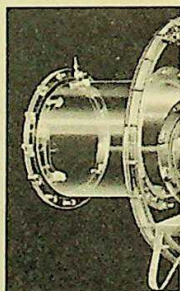
41-905 Economy Glove Box as illustrated, complete with two side access opening covers ea. 186.00
41-905-02 Air lock for connection to 41-905 ea. 76.00
41-907-31 Bellows gloves with replaceable neoprene hands. pr. 60.00



Standard Glove Box 1/4" thick Plexiglas, transparent top, front and sides; opaque white back and bottom; 36" long by 21" wide by 22" high and 18" diameter side entry. Air Lock: 1/4" thick Plexiglas, 12" diameter by 12" long. Filter Unit: 1/8" thick Plexiglas, 6" diameter by 8" long; with shredded polyethylene filter ends. Blower Housing: 1/4" thick Plexiglas; transparent end, opaque white sides. Blower: 80 c.f.m. enameled steel centrifugal, 4" inlet by 2" outlet. Seals: "O" ring throughout. Light: 20 watt fluorescent.

Valve: Stainless Steel Toggle action. Switches: External.

41-906-11 Standard Glove Box. Ready for use, with side cover plates and all other accessories, as shown. (Does not include air lock or circulating system.) ea. 950.00
41-906-12 Air Lock Glove Box. Same as 41-906-11, but with air lock added as illustrated. ea. 1150.00
41-906-13 Circulating Glove Box. Same as 41-906-11, but with circulating system added as illustrated. ea. 1250.00
41-906-14 Complete Glove Box. Ready for use with air lock, circulating system and all accessories. ea. 1495.00



Vacuum Glove Box, 5/8" thick Plexiglas; transparent cylinder 24" diameter and 36" long with 24" diameter entries on both ends. Light: 20 watt fluorescent with opaque plastic diffuser. Allowable Pressure: Box, Air Lock and Filter Unit all full vacuum.

41-907-21 Vacuum Glove Box. Ready for use, with side cover domes and all other accessories. ea. 1485.00
41-907-22 Air Lock Vacuum Glove Box. Same as 41-907-21, but with air lock added as illustrated. ea. 1785.00
41-907-23 Circulating Vacuum Glove Box, Same as 41-907-21, but with circulating system added as illustrated. ea. 1935.00
41-907-24 Complete Vacuum Glove Box. Ready for use with air lock, circulating system and all accessories. ea. 2435.00

* T. M. Rohm & Haas

For complete details on all Glove Boxes, Write for Bulletin

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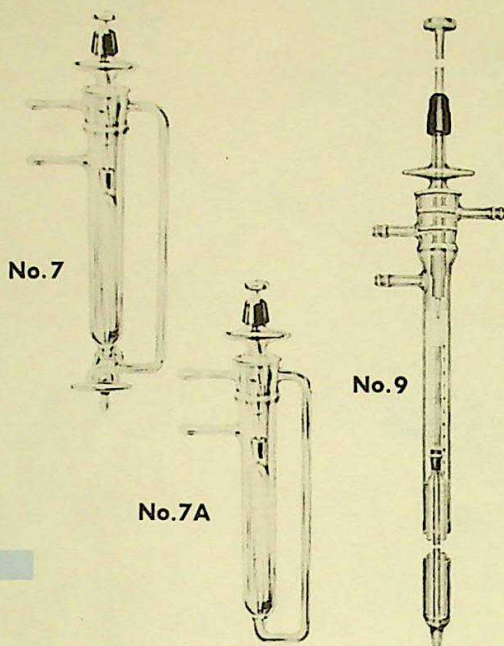
March 1965



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**Still the Best Way to Control Vacuum,
Pressure and Flow Automatically**

CARTESIAN MANOSTATS

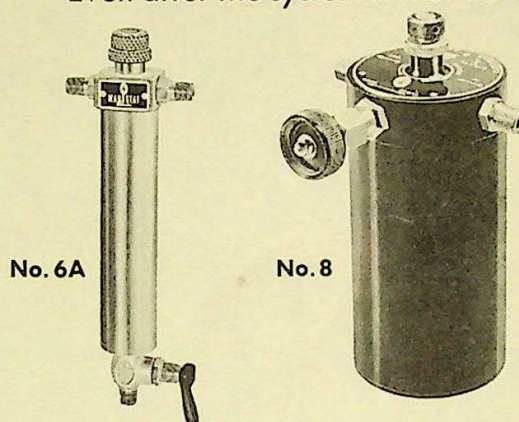


No. 7

No. 7A

No. 9

*They remember your setting...
Even after the system is shut down!*



No. 6A

No. 8

50-550 Cartesian Manostat No. 7. All-Glass model. Automatic vacuum pressure control with remarkable vacuum memory feature, "Memorizes" the last setting, so that a system which is shut down returns to precisely the same setting when operation is resumed. This all-glass instrument is ideally suited to laboratory applications. Corrosion resistant. Can be used to control vacuum, pressure or flow. Sensitivity: $\pm 0.2\%$, Capacity: 8 liters/min. Ready for use, with rubber connections, Mercury not included.ea. **58.00**

50-551 Cartesian Manostat No. 7A. Simplified version of Model No. 7.ea. **49.25**


50-570 Cartesian Manostat No. 6A. Automatic vacuum, pressure and flow control with vacuum memory feature, convenient toggle valve operation, and interchangeable orifices. The most versatile of all

Manostats! Sensitivity: $\pm 0.2\%$, Capacity: 32 liters/min. All stainless steel, with 1 mm. orifice. Mercury not included.ea. **140.00**

50-580 Cartesian Manostat No. 8. Automatic vacuum and pressure control, with simplified operation. Place this self-contained unit in your system, set it—forget it! Corrosion-resistant anodized aluminum body. Exceptionally high sensitivity: $\pm 0.05\%$, and high capacity: 130 liters/min. Complete with 3 interchangeable orifices. Mercury not included.ea. **155.00**

50-560 Cartesian Manostat No. 9. With this Manostat you can measure vacuum from 0 to 100 mm. and control pressure at the same time. This Manostat is supplied with 2 floats 0 to 10 and 0 to 100 mm. for precision reading over the full length of the 100 mm. scale. Sensitivity $\pm 0.2\%$ ea. **112.00**

For complete information on all Cartesian Manostats, write for bulletin no. 0812.

If your Manostat does not have this  trademark, it has not been manufactured by Manostat Corporation.

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